*Price One Shilling.*

**No. 72.** N. SER.] APRIL, 1861. [No. CCXXX.

THE

# PHYTOLOGIST.

## A BOTANICAL JOURNAL.

*'Ως ἐμεγαλύνθη τὰ ἔργα σου, Κύριε!—πάντα ἐν σοφίᾳ ἐποίησας.*

ΨΑΛΜ. ρδʹ. 24.

Benedicite universa germinantia in terra Domino; laudate et superexaltate Eum in secula.—*Hymn. iii Pueror. v. 76.*

LONDON:
WILLIAM PAMPLIN, 45, FRITH STREET, SOHO.

J. E. TAYLOR, PRINTER, LITTLE QUEEN STREET, LINCOLN'S INN FIELDS.

# CONTENTS.

Page
The Plants of Ratcheugh Crag, Northumberland . . . . . . 97
Botany of the Doward Hills, Hertfordshire . . . . . . . 101
Fertilization of Ferns . . . . . . . . . . . . . . . . 106
Botanizing at Faversham . . . . . . . . . . . . . . . 107
Kingston (Canada) Botanical Society . . . . . . . . . . 113
*Valeriana Calcitrapa* . . . . . . . . . . . . . . . . 116
Remarks on the Botany of the Chilterns; by C. J. Ashfield 118
Todmorden Botanical Society . . . . . . . . . . . . . 119
Reviews:—
  Flora of Cambridgeshire; by C. C. Babington . . . . . . 121
  The Chemist and Druggist . . . . . . . . . . . . . . 125
Botanical Notes, Notices, and Queries . . . . . . . . . 126
Communications received . . . . . . . . . . . . . . . 128
Books received for Review . . . . . . . . . . . . . . 128

---

*Price 3s.*

BOTANICAL LABELS FOR THE HERBARIUM.

Adapted to the respective Floras of Smith, Hooker, Lindley, and Macreight. Including one for every Plant hitherto recognized as indigenous to the British Islands. By a Corresponding Member of the Botanical Society of London.

WILLIAM PAMPLIN, 45, Frith Street, Soho Square.

---

MOON'S CEYLON PLANTS. A Catalogue of the Indigenous and Exotic Plants growing in Ceylon, distinguishing the several Esculent Vegetables, Fruits, Roots, and Grains, together with a Sketch of the Genera and Species in use among the Singhalese; also, an Outline of the Linnæan System of Botany in the English and Singhalese Languages, for the use of the Singhalese. By Alexander Moon, Superintendent of the Royal Botanic Gardens in Ceylon. *Complete*, new, in boards. Royal 4to. 5*s*. Colombo, 1824

---

*Now re-issued, and reduced in price from 24s., at which it was published, to* EIGHT SHILLINGS, *extra boards,*

A FLORA OF SHROPSHIRE.

Complete in one thick Volume. Numerous Plates. By Rev. W. A. Leighton, B.A.

---

*Fifth Edition, Price 4d.*

THE LONDON CATALOGUE OF BRITISH PLANTS,

Published under the Direction of the Botanical Society of London, adapted for marking Desiderata in Exchange of Specimens, etc.

---

WILLIAM PAMPLIN, 45, Frith Street, Soho Square

## NORTHUMBRIAN BOTANY.

### *The Plants of Ratcheugh Crag. By* W. R., Jun.

A very young candidate for botanical renown makes his *début* this month in our pages, and the indulgence of the readers is hereby bespoken, more out of deference to established custom than from any inherent necessity there is of speaking for one who can be safely trusted to tell his own story in his own way.

We beg to state that we like the following paper: first, because it is a good one; next, because it is short; thirdly, because the matter of it is expressed in brief, plain language; and, lastly, because it is written by a youth who evidently loves the subject, and who has read the 'Phytologist' with advantage both to himself and to the public. It makes the heart of the liberal sing for joy when the instruction brings forth fruit suitable for the enjoyment of the recipient, and not unfit to be offered for the information and gratification of others.

Some readers of the 'Phytologist,' when they see the heading of this article, may say, in what part of the world are these crags which they are invited to visit? I will therefore hasten to inform them that the locality to which I wish to introduce them is in "far away Northumberland." Ratcheugh Crag is a range of low, basaltic cliffs, three miles to the east of Alnwick, and about the same distance from the coast. The western side of the crags, viz. that next to Alnwick, is formed of almost perpendicular rocks, but it slopes gradually down on the eastern side; the entire length is about half a mile. It is divided into two parts by a road which passes over the depression between them, and it is with the larger or northern part chiefly, that I intend to deal at present.

It is somewhat in the shape of a crescent, with its points towards the south and east, and its convex side facing the north and west. There is an observatory on the top, in which a good telescope is kept by his Grace the Duke of Northumberland. The prospect from it is very fine, and extends from the east of Berwickshire to the north-west of Durham, embracing almost all the Northumbrian coast, and any one can readily obtain admission by applying to the person who has charge of it. I have selected it, not because it is our best locality,—for there are

BRITISH MUSEUM

others in the neighbourhood, that can well bear comparison with it,—but because I am better acquainted with it than any other.

For early spring plants, this is one of the best localities in the neighbourhood, and it is usually visited by those who are on the outlook for the first floral harbingers of genial weather and the time of flowers. On the summit is the common Primrose and Cowslip, both very fine, and on the sloping bank, in front, grows *Primula intermedia* (*β P. elatior*).* But it affords greater rarities in *Viola hirta* and *Sesleria cærulea.* The *Sesleria* covers a large part of the top; the Violet is also plentiful, but it grows at the foot and on the face of the rocks as well as at the top. On walking round, other interesting plants may be seen, such as *Viola sylvatica, Fragaria vesca, Oxalis Acetosella, Anemone nemorosa, Ajuga reptans, Orchis mascula* and *O. maculata,* all in considerable quantity. I have also seen two plants of *Gymnadenia albida,* near the north end, in May, 1858, and I gathered a single specimen of *Habenaria viridis* last June, in the pasture on the east side. There is one part where the basalt rocks are overlaid with limestone, and very near the top of the lime there are a few dense bushes of *Prunus spinosa,* which always produce abundance of blossoms, and shed a perfume that surpasses everything else in the vicinity. A *Cerastium,* which I took to be *C. semidecandrum,* flowers here in March, and two months later the barest parts afford a few minute plants of *Saxifraga tridactylites.* It seldom exceeds an inch in height, and is generally very slender, but I collected one specimen 3¾ inches high, and with the leaves large in proportion. At the same time with the Saxifrage, *Mœnchia erecta* may be collected. It grows in a small field to the south-east, lying next to the crags, among tufts of *Aira præcox.* On the banks near it are *Montia fontana, Myosotis versicolor, Hypericum humifusum* and *H. pulchrum,* and a *Draba* I made to be—from descriptions in the 'Phytologist'—

---

* The following note is from Dr. Johnston's 'Flora of Berwick:'—"The latter is a very remarkable monstrosity (? variety), distinguished for its size and beauty. The common stalk is strong, 4 or 6 inches long, bearing an umbel of about nine flowers, each supported on a partial stalk, with lanceolate bracteas at their bases. The flowers are rather less than the single ones, but the limb is equally expanded. This variety is the *P. elatior* of Dr. Hooker's Fl. Lond., according to Smith, and probably also of Dr. Greville, Fl. Edin. 48, though the description is somewhat confused."

*D. glabrescens*. The Hypericums do not flower till at least a month after the others. *Myosotis collina* grew on a wall on the east side of the plantation, but as the wall has been pulled down and rebuilt, that locality is destroyed for the present.

Two interesting Ferns are also to be had in May, viz. *Ophioglossum vulgatum*, and *Botrychium Lunaria*: they grow in a pasture on the south-west side, in front of a large quarry. The Moonwort is near a well in the field, and the Adder's-tongue about halfway between it and the plantation.

*Erica cinerea* grows on the banks beside the quarry, and *Hieracium boreale*, *Stachys Betonica*, and *Teucrium Scorodonia*, bloom there in July. The botany of the crags is at least more varied in midsummer, although it then does not produce rarer plants. I will commence at the south-western end, and notice the plants as I proceed. The limestone before mentioned affords a few plants of *Scabiosa Columbaria* and *Sedum acre*. In front of it are *Vicia sativa* and *V. hirsuta*, and just below them, two or three patches of *Geranium sanguineum*. *G. lucidum* grows on several parts of the wall that encloses the plantation. Beside these, and on the rocks lying northward, are *Arabis hirsuta*, *Pimpinella Saxifraga*, *Poterium Sanguisorba*, *Helianthemum vulgare*, and *Thymus Serpyllum*. *Euonymus europæus* clings to the face of the rocks, and on a ledge about halfway down, there is one large plant of *Astragalus Glycyphyllos*. *Hieracium vulgatum* grows all along the front of the cliffs. Proceeding to the northward, we will find *Arenaria serpyllifolia* growing on the rocky ledge. I noticed a few plants of *Sagina subulata* growing in the midst of the *Arenaria*. *Arenaria trinervis* is plentiful at the foot of the precipice. Leaving these, as we go along, a few rather scarce Grasses may be picked up, such as *Avena pratensis*, *Koeleria cristata*, *Bromus sterilis*, *Festuca bromoides*, and others.

*Allium oleraceum* is abundant as we proceed, and so is *Rosa spinosissima*. About eighty yards from the observatory, *Dianthus deltoides* and *Cerastium arvense* occur on a bare dry place, both sparingly.

There is a small but dense tuft of *Astragalus hypoglottis* a few feet from the building. It flowers very late—September and November. About sixty or seventy yards on the other side of the observatory, a *Thalictrum* is growing on the ledge of the rocks. I believe it is *Thalictrum flexuosum*, but it is so much damaged by the wind, that it never reaches maturity. A little further on, there is a white variety of *Digitalis purpurea* growing among the rocks; further on, a patch of *Vaccinium Myrtillus*. Near the eastern end of the plantation on the south side, where the limestone rises again to the surface, several plants that grow on the crags are found, and with these *Briza media* and *Avena pubescens* grow in abundance. Here are also *Tragopogon minor, Carex glauca, Anthyllis Vulneraria, Silene inflata,* and *Linum catharticum.* The higher part of the same field is a stronghold of *Carduus tenuiflorus.* It is not only plentiful, but absolutely a pest, to the great distress of the reaper and haymaker, who are obliged to protect their hands, or experience the truth of the motto which surrounds Scotland's national emblem, *Nemo me impune*, etc.

In the same field, but lower down, and beside Ratcheugh (farm), I obtained a few specimens of *Crepis setosa,* which was introduced with clover-seed. Here are also a few Ferns to be collected: *Asplenium Ruta-muraria,* on the limestone; *A. Trichomanes,* sparingly, in the crevices of the rocks; *A. Adiantum-nigrum,* more plentifully; and *Polypodium vulgare,* in great abundance. *Lastrea dilatata* and *Polystichum angulare* grow in the plantation. There are a few others I have omitted. The most worthy of notice are *Asperula odorata, Scabiosa succisa, Alchemilla vulgaris, Hyacinthus nonscriptus, Lastrea ovata?, Lychnis diurna, L. vespertina,* and *L. Flos-cuculi,* plentiful in the plantation and the drive; *Galium saxatile,* on the top of the crags, and *Adoxa Moschatellina,* at the base; *Potentilla reptans,* on an earth-capped dike at the south end; and *Filago germanica,* on the dry banks near it.*

Lest my description should fail to give the reader a precise idea of the localities of the plants entered, I may remark that the greatest distance between the remotest here mentioned does not exceed half a mile, and even a stranger to the district would succeed in reaping a good reward, or be abundantly repaid, for his visit to this interesting locality.

---

* In May, 1858, I discovered a small patch of *Doronicum plantagineum* among the trees in front of the crags, but when the trees were cut down, to burn the branches, a fire was made on the place where it grew. I fear the plant is now destroyed.

# BOTANY OF THE DOWARD HILLS.

## *Botany of the Dowards (Herefordshire), Great and Little.*

*(From a Correspondent.)*

About ten years ago there appeared in the old series of the 'Phytologist' (see vol. iii. p. 856), "Notes on the More Interesting Plants found during a Day's Excursion on the Great and Little Dowards; by William Bennett, Esq.," and the reporter and his companions had no reason to be discontented with the result of their botanizing.

The most experienced in such researches best know that all the plants even of a very small district, say, for example, three or four square miles, including considerable diversity of surface and probably some variety of soil and elevation, are not to be seen in a day, even by a company of acute botanists. All the plants do not appear at the same period; and even if they did, strangers who visit a locality remote from their usual haunts (about their own homes) seldom happen to fall upon the exact spots where the rarer species grow.

Some hitherto unrecorded species remain still to be noticed, and the present contribution is offered to supply this information.

*Clematis Vitalba* is not one of the plants enumerated in the list above mentioned, though it is not unfrequent on these hills. *Helleborus fœtidus* and *H. viridis* are additions to Mr. Bennett's list. See 'Phytologist' as above quoted.

About twelve years ago *H. fœtidus* grew plentifully in a wood on Great Doward Hill, in Herefordshire, and has been gradually decreasing since that period, and some two or three years since it totally disappeared. It has been frequently and carefully sought for by botanists well acquainted with its locality and habits, but without success. The cause of its disappearance is probably the growth of the underwood, and it is probable that when the underwood or coppice is again cut, the Hellebore will spring up anew.

It is believed that the removal of the underwood from the upper parts of the hill has been the cause of the increase of *Carex montana*, which is now found in profusion.

*Helleborus viridis* grows in a pasture at the base of the Great

Doward sparingly; but there are several large tufts of it growing in a *brake* adjoining.

This plant alternately appears and disappears in a large copse wood on the south side of Ranmer Common, in Surrey. About two or three years after the wood has been cut, the green Hellebore abounds everywhere in the open spaces between the bushy underwood stools; after the copse wood has grown from seven to ten or twelve years, the Hellebore begins to disappear; and when the wood is full-grown, or when the Ash and other coppice wood is large enough for the hoopmaker's purpose, the plant has entirely disappeared, and reappears when the copse is cut as before.

The appearance and disappearance of plants is illustrated by another plant not uncommon in Surrey, viz. *Narcissus Pseudo-Narcissus.* The Hook Wood, between Guildford and Ash, on the north side of the "Hog's Back," perhaps three miles from Guildford, is periodically cut down for the coppice wood, not all in one season, for it is much too large for that process, but a portion —say ten or a dozen acres—is cut annually, and by the time the last dozen acres are cut, the first-cut portion is grown up and ready for the cooper's use. In a certain part, probably in more than one part, the Lent Lilies (*Narcissi*) spring up the first year after the wood is cut. They probably grow during several years, gradually disappearing when the shade is too much for them. In all this there is nothing marvellous; and probably for this cause these facts are but seldom recorded and more seldom heeded. *Omne ignotum pro magnifico.* The incredibly marvellous is wonderfully attractive; hence the implicit belief in the germination of mummy-wheat after its interment since the times of Cheops, or between three thousand and four thousand years ago.

It is asserted, on the highest possible authority, that when a forest or part of a forest is either cut down or burnt down,—for the same results will follow in either contingency,—there is a fresh crop of wood springs up as different as possible from the wood which grew there before it succumbed to the axe of the woodcutter or to the combustion of the potash-maker.

There may be nothing very wonderful in all this. The fresh crop of timber, unlike that which was removed, may have originally germinated or have sprung up with the more fortunate or hardy children of the forest, which, like the giants of old, oppressed the weak, caused them to hide in caves, dens, and holes, yet were unable to exterminate the feebler races. When the Titans succumbed, a humbler race took their place.

Were any change in the position of the earth's axis to take place, or if by any other mechanical or physical alteration the Arctic regions could enjoy a somewhat higher temperature than they do at present, there would soon spring up a luxuriant growth of Birch, Pine, and even Oak trees; and if these were only slightly protected from cattle, the hills and mountains of Lapland would abound in forests like the pine-clad hills of Norway and North America.

This new arborescent vegetation would not spring from seeds which had lain dormant in the soil since the Creation, but from plants which had existed for centuries under the Heath, Moss, and Lichens with which these inhospitable countries are covered. The herbaceous Willow would be as ligneous as the Willows of our brooks, if the short summer and scarcity of heat and light suffered it to ripen its tissues and to convert them into woody fibre. The trees of Sweden, or several of them, are found in Lapland, but only a few inches high; the only ligneous portion of them is just the part protected by the scanty vegetation with which they are surrounded.

The Hellebores and the Daffodils probably need more caloric, as well as more light, than they can get when the place where they grow is densely covered with trees, branches, and leaves. When these are removed, the plants appear and grow vigorously, till the subsequent growth causes them to decrease, and finally to disappear.

*Hutchinsia petræa* grows on the calcareous rocks, and *Hippocrepis comosa, Spiræa Filipendula,* and *Onobrychis sativa* on the grassy open places. The latter is usually considered an escape from places where it was or is still cultivated. Whether this be be so or not, the plant is well established in many parts of the kingdom.

*Tilia grandifolia* and *T. parviflora* grow in plantations. Botanists are not unanimous in admitting their claims as natives of England, although they are entered in every Flora, from Gothland in the Baltic to the Balearic Isles in the Mediterranean.

*Acer campestre* and *Euonymus europæus,* plants of the Dowards, have also an equally extensive range in Europe, viz. from Sweden to the south of Spain.

*Poterium muricatum* is one of our recent acquisitions, acquired either by separation from *P. Sanguisorba* or by importation with foreign seeds. The plant, whether a variety of *P. Sanguisorba* or as distinct as Hereford is distant from Ross, grows in old pastures on the Little Doward, where there has been no cultivation within the memory of the oldest inhabitant. It does not appear to be an introduction in Herefordshire.

*Pyrus Aria* and *P. Torminalis* are distributed over most parts of Europe, from Denmark to Greece, and they form part of the arborescent vegetation of this part of the west of England.

*Cotyledon Umbilicus* appears to have a predilection for the western parts of England, and therefore if its distribution in England, independently of its European range, is to be the subject of consideration, it is far from being a western plant, for it is found in the most eastern counties of England. The nature of the surface and the state of the atmosphere have more effect on the distribution of the plant than a few degrees east or west have.

The plant however is not confined to the west of Europe, but is a denizen of Switzerland, and grows to the east of the Adriatic, and extends into Greece and Turkey, about as far as possible in Europe from the Atlantic. But this is an example of one of the necessary consequences of attempting to establish general laws without a competent knowledge of individual facts. The result is, only vague and uncertain generalities.

*Cornus sanguinea*, *Viburnum Lantana*, *Acer campestre*, and *Ligustrum vulgare* are chiefly found in hedges; and hence it is a matter of wonderment that their nativity has not been called in question by some sharp-sighted observers, who will not let the world be ignorant of their perspicacity while they have wind enough in their lungs to blow their own trumpets withal. These would-be-wiser observers than their fellows will say, "True; but they are not exclusively found in hedges: they are called sylvestrals; and woods, like hedges, are mostly planted." But are there no natural hedges, as there may be and are natural woods? When wood covered most part of the country, and before clearings and roads were made, all the shrubs and trees now growing in hedges might have grown in the original forest, and they may have been left, and probably were left, as a protection to the cleared cultivated portions which skirted the public thoroughfares. Hence probably most of the arborescent septal vegetation in England, and Scotland too, is descended from the original shrubs and trees that once constituted part of the ancient forests with which most of this country was originally covered.

Among the hedge-plants of the Dowards are also the following, and they have never yet been deemed suspected aliens, though they grow in hedges, and almost exclusively there, viz. *Bryonia dioica, Tamus communis*, and *Carex pendula*. These grow all over Europe, from Portugal to Hungary inclusive.

*Sison Amomum*, another plant of the Dowards, grows under hedges. This species has a moderate European range, viz. from the Alps to the north of Greece.

In woods or plantations (these words are nearly synonymous in the modern history of rural affairs) the sylvan and septal (hedge-plants) vegetation is combined. Most of the plants so called grow both in woods and in hedges. Some of the rarest on the Dowards are, in addition to those mentioned at the beginning of this notice, viz. the Hellebores, etc., *Daphne Laureola, Serratula tinctoria, Monotropa Hypopitys, Cephalanthera grandiflora, Ophrys muscifera, Neottia Nidus-avis, Luzula Forsteri, L. pilosa*, var. *Borreri, Carex montana, C. clandestina, C. digitata*, etc.

It has been already observed (see *supra*) that one of the rarest of these *Carices, C. montana*, has become more plentiful since the hills were partly denuded of their wood. It was first discovered by Mr. Purchas in its above-mentioned Herefordshire locality. The other two species of the genus with which this rare plant is associated are also rarities, at least in England. *C. digitata* has an extensive range in Europe, viz. from Norway to Switzerland, and from the west of England to the east of Europe. *C. clandestina* has an almost equal horizontal range, but its latitudinal extension is not so great as that of *C. digitata*. *C. montana*, the scarcest of the three in England, has a much longer range than that of either of its two associates on the Doward Hills.

The rarer pascuals (pasture plants) on these hills are *Helianthemum vulgare, Agrimonia Eupatoria, Plantago media* and *P. Coronopus, Carex præcox, Chlora perfoliata, Ophrys apifera, Spiræa Filipendula, Erigeron acris, Hippocrepis comosa, Taxus baccata, Orobanche major, Polypodium calcareum*, etc.

Among the agrarial species may be noticed *Sinapis alba* and *S. nigra, Reseda lutea, Carduus nutans, Picris hieracioides*, etc.

The rarer aquatics and marsh plants of this district are *Cerastium aquaticum, Ranunculus fluitans, Myosotis palustris, Symphytum officinale, Carex acuta, C. pallescens, Ophioglossum vulgatum*, etc.

The following species grow about roadsides or on banks, or near hedges or in waste places, "nooks and corners," viz. *Arabis hirsuta, Viola hirta, V. odorata, Origanum vulgare, Arum maculatum, Inula Conyza, Dipsacus pilosus*, etc.

As the botanists of England may soon look for and also have the pleasure of reading a Flora of Herefordshire, the above list is given as a kind of first-fruits, or, as some would say, *Primitiæ Floræ Herefordiensis.* It is printed and published for the use of botanists in this county, and for the convenience of those who mean to visit it with botanical objects.

There are many rare plants both on the north and south extremities of the county. *Euphorbia stricta*, for example, is to be found not very far from Ross, and *Astrantia major* not very far from Ludlow on the north. Botanists are guided in their researches on the existence and distribution of plants more by the natural state of the country than by its political divisions into counties, which appear to have perplexed more than one geographical botanist. N.

---

## FERTILIZATION OF FERNS.

Every species in the animal kingdom is allowed by naturalists to be sexual, but under various modifications. Every species of vascular plant is allowed to be so too; but when we come to the cellulars we are at a dead-lock, for our elementary botanical teachers have not as yet enlightened us as to whether even Ferns possess any sexual development. We are informed that they have been subjected to the strictest microscopical scrutiny, and that no stamens or pistils have been discovered, or any organs which may be supposed to perform such operations as are caused by them in other orders.

It may be asserted that the body of the largest shark may be dissected with no better success, and yet the animal deposits eggs, and the mode and limits which Providence has assigned to it to observe, as well as the smallest sprat, in reference to the continuation of their respective species, is perfectly understood by naturalists.

Taking it as an established fact that all animals and half of the vegetables are sexual, may we not infer that Ferns may be sexual also, and that they bear the same analogy to fish as vascular plants do towards the higher orders of animals? May we not without any great stretch of our imaginative faculties assume that some of the plants, fronds, or spore-cases produce male spores, and others female? When the indusium bursts and the spores disperse, it is quite probable that a male and a female spore may frequently fall into the same nidus, and that the male may be the progenitor of the marchantiate portion of the plant, and the female be fertilized by the vegetative influence of the male to produce the frond. By the way, I may observe that when a pot of spores are under cultivation, many never survive the marchantiate state.

Now as all naturalists are well aware that fish, which are a lower order of animals than birds or beasts, deposit their eggs prior to impregnation, is it going too far to assume that Divine Providence, in its infinite wisdom, has thought proper to endow a certain inferior order of vegetables with the means of propagating their species in a similar manner?

To me such an hypothesis appears perfectly natural; but, as Sir Roger de Coverly replied when he had an abstruse question propounded to him, "much may be said on both sides."

PISCATOR.

---

## FAVERSHAM PLANTS.

### *An Account of a few hours' Observations in and about the ancient town of Faversham, Kent.*

On Monday, the 3rd of September, 1860, we left the London Bridge terminus of the North Kent railway for a week's botanizing in south Kent, and we halted from three to four hours (from between one and two o'clock to between five and six) to look for and collect a few specimens for which Faversham is celebrated.

It is believed that the readers of the 'Phytologist' will excuse this now oftener than the thrice-told tale about the plants of Faversham: first, because all who read this may not have the works of Jacobs and Cowell on their shelves; secondly, the present *story* will be only a short one; thirdly and lastly, because we have something to tell them which was never printed before.

The station is on the right-hand side, or on the west of the town, and consequently, in going to the creek, where the rarest of Kentish or even of English plants grow, viz. *Peucedanum officinale,* the traveller has to pass through the town; and future tourists are recommended to turn aside into the churchyard, as we did, and if they are not botanists, they may spend a half-hour not unprofitably in "meditating among the tombs." Our object was not this; for examples enough of the ravages and trophies of time and of death are obtainable without incurring the expense of a journey to so distant a place as Faversham. We went to botanize, and we did so, energetically and successfully. If there be two species of *Parietaria,* viz. *P. diffusa* and *P. erecta,* they are surely to be seen in Kent. Probably they grow on these ancient walls or spread over the contiguous rich mould of the churchyard. But this plant or these plants abounded in several parts of the coast subsequently visited, and many examples were looked at and compared, but with no definite or satisfactory results.

The Pellitory, though mural in the interior of our island, is not so in Kent. It grows far from towns and from houses, sometimes on the chalk rock or on the chalk *débris,* but it is quite as common on the rich marly soil of the undercliffs and even on the level ground, but as remote as possible from dwellings and ruins, its common habitat in the inland parts of the country.

*Crepis biennis* we did not observe about the churchyard. It is entered in Cowell's list, and it may be there, though we did not see it; but we saw plenty of common or garden Parsley, Snapdragon, and blue Toad-flax (*Antirrhinum purpureum*); these, with *Festuca myurus,* or *F. pseudo-myurus,* or *F. bromoides, Hieracium Pilosella, Veronica arvensis, Erigeron acris,* and such-like, formed the staple of the mural (wall) plants of Faversham churchyard.

*Crepis biennis*, which we never saw but in Kent, is stated by Stowell (see 'Phytologist,' N. S., p. 103) to be plentiful in this neighbourhood wherever the chalk crops out.

But the pride and the glory of the Faversham Flora is the *Peucedanum officinale*, a plant in these our isles, almost exclusively confined to Kent; and this is the better known of its two Kentish reported stations. We hesitated about going to Whitstable in search of it, but ultimately concluded that our time would be better spent in searching the coast further south.

This rare species still grows plentifully on the high bank which skirts the creek on the Faversham side of the river. If the tourist goes on straight to the harbour, and then follows the dike towards the east, leaving the creek on his right, he will soon see plenty of this plant.

Here also grow *Allium vineale, Juncus cœnosus, Triglochin palustre*, much relished by cattle, *Juncus maritimus, Glyceria (Sclerochloa) distans* or *G. Borreri*. These plants constitute the principal herbage of these grassy banks and salt meadows. *Aster Tripolium* and *Statice Limonium* grow luxuriantly on the mudbanks within the sea-wall (dike?). *Rumex Hydrolapathum* and *Potamogeton pectinatus* grow in the water.

Our intention is not to make out a fourth list of Faversham species, but merely to notice and record the changes that have been observed since the publication of the last printed list (about four years ago: see 'Phytologist,' vol. ii. p. 103), and to record with these newly-observed plants a few of the prominent and rarest of the others, for the convenience of those who may follow in our track.

There is a plant new to the Flora of Faversham, viz. *Lepidium ruderale*, to be entered as a species belonging to this locality. The rarest species of this genus, viz. *Lepidium latifolium*, was a Faversham plant when Dr. Jacobs compiled his Flora. It had disappeared when Mr. Cowell published his very complete and systematic localized lists. Another species, *L. campestre*, an agricultural weed, was detected by the Rev. H. A. Stowell and published in the 'Phytologist' for 1856, vol. i. p. 254, N. S. We have the pleasure of reporting the above-mentioned plant, another member of the genus, not previously recorded as growing in this part of Kent.

*Lepidium ruderale* is a plant of migratory tendencies, but it is hoped that it may become permanent in this station. It has been occasionally seen at Wandsworth, near the steamboat-pier, on the Surrey side of the river; and also on the bank of the Kensington canal, on the Middlesex side of the Thames; and it has been observed also at Turnham Green, Middlesex. It is not uncommon about Greenhithe and Gravesend, and it is exceedingly plentiful on the river Coln, below Colchester.

The following additions are also to be made to the plants of Faversham, viz. *Diplotaxis muralis,* which appeared here plentiful enough, and it accompanied us during our whole route through Canterbury, Deal, and Dover, to Hythe, where our journey terminated. This species, unlike its relative, *D. tenuifolia,* shows no predilection for walls; it is everywhere, in Surrey and Kent, where it abounds, contented with a humbler station. It would be too tedious to enter all the stations for a species which is in this part of the country nearly as common as Shepherd's-purse.

On a wall on the left, near Davington church, while ascending the hill from the creek, *Sedum dasyphyllum* was detected in considerable abundance. This rare plant may have been introduced subsequently to the publication of Dr. Jacobs's Flora, but it had apparently been settled there long prior to the compilation of either of the modern lists of the Faversham species.

*Verbascum Lychnitis,* as a mural plant, is also a new discovery. This grew on a wall a short distance beyond Davington church, on the same road, and on the same side of it. This plant was solitary when first observed two years ago. There are now, September 3rd, 1860, three plants, viz. the original or mother-plant, now of considerable bulk, having both flowers and fruit, also one of its descendants in flower, and the third and last has now well-developed radical leaves.

This locality produces abundant and fine specimens of *Salvia verbenaca,* and also of the rare *Calamintha Nepeta,* which abounds both on the turf in the churchyard, and on the churchyard wall.

This plant is probably sometimes mistaken for *C. officinalis,* and *C. officinalis* may also occasionally be mistaken for it; and the mistakes may be counter-checks, and the relative numerical proportions between the statistics of the two plants may not be much affected. The numbers of stations known, or at least published, for *C. officinalis* is at least twice as many as for *C. Nepeta.* But if the census of the individual examples is to be taken, *C. Ne-*

*peta* is a thousandfold more numerous than *C. officinalis.* The latter grows here and there on banks and on roadsides; the former, *C. Nepeta,* covers many acres in several parts of Kent and Essex, where it is the sole herbage, excluding every other plant except grass. In some places it gives a hue to the fields where it grows, which at a considerable distance look as if full of clover. *Calamintha Nepeta* is gregarious in the counties of Essex and Kent, where we saw it; and by this habit, as well as by its colour and the smallness of its leaves, it may readily be distinguished from its near relations. In a dried state, or in the herbarium, the *three* species *Calamintha sylvatica,* Bromf., *C. officinalis,* and *C. Nepeta,* are not very readily distinguished.

Any botanist accustomed to the comparison of herbarium specimens, and who is well endowed with energy and patience, and could spare the time, might do good service to the science, and might be helpful to the students of our native plants, if he would undertake the unprejudiced examination of the three ill-defined species of *Calamintha, C. officinalis, C. Nepeta,* and *C. sylvatica.* He might commence with the largest of the three forms, *C. sylvatica,* Bromf., and he should diligently compare with this assumed species the largest forms of *C. officinalis* which may be in his herbarium. This latter plant pretty well connects the smallest of the three, viz. *C. Nepeta,* with the largest, *C. sylvatica.* Probably the examination of a dozen examples of each would decide the question about the specific distinctness or the identity of the three generally received species. If connecting forms be found among the dozen examples of the respective plants or species, of course their specific distinctness must be abandoned; or if their distinctive characters be so minute as to be observable only by such a close scrutiny of a series of specimens, few botanists, it is to be feared, will have both the time and patience necessary for their satisfactory identification.

The important question, which of the two practices, viz. the splitting or combining of species, is most conducive to the progress of science, will be answered by the leaders of the two scientific sections in conformity with their own peculiar views. Much may be said on both sides, much has been written not always in a courteous way, and it is probable that for the purposes of science the one mode of procedure may be as beneficial as the other; but the segregative process will eventually be a cause of much trouble and discomfort to the future historians of the British species. The history of the recent mutabilities in the nomenclature of our plants may be an instructive example, for the changes that have been made during the last thirty years far exceed those made during a century previous to 1830.

Something may be advanced here about the nativity of *Sedum dasyphyllum,* a plant which is challenged by some and passed by other botanists. Mr. Watson decides against its claims on the ground that the few natural stations where it has been seen are mentioned "on authority not strong, and seldom corroborated by any second observer." Seldom corroborated! How often should a station be reported, and how many times should it be corroborated by subsequent observers, ere it is allowed to pass the ordeal of the sage of Thames Ditton? The 'Phytologist' supplies corroborative proofs of the genuineness of the Perthshire localities, both of *Sedum album* and *S. dasyphyllum;* confirmation strong as Holy Writ can be easily produced, "in precise terms," and attested by hundreds of observers.

But will any phytogeographer answer this question, viz. are all plants growing on old walls, whether "garden, abbey, or hospital" walls, introduced there by cultivation? If he answers No, and further replies, only a donkey, but no botanical geographer, would ask such a question,—it may be asked, how came the other plants, the *Arenaria serpyllifolia,* or *A. leptoclados,* or *A. balearica,* which grows on the tool-house at Moncrieffe, or Shepherd's-purse, or Groundsel, and a multitude more, on the wall? These plants are never cultivated, but eradicated wherever and whenever they appear. How are the genuine plants to be distinguished from the spurious? They all grow together. The others, it may again be asserted, are common plants, and therefore there can be no question about the legitimacy of their origin. The other is uncommon, it is scarce or rare. It may be asked again, are all rare plants which have the misfortune to grow on walls to be excluded? Possibly they might grow on natural habitats if there were any present suited to their peculiar economy.

Mr. Watson's arguments are not convincing; he did not judge accordantly with the evidence, and probably the evidence on which he relied was defective. But a metaphysician should be able to sift evidence, and he should possess in addition the moral ability to decide impartially.

In a head of pure fresh water near the town, *Hippuris vulgaris* still grows, with several other aquatics. *Cuscuta Trifolii* had been well-nigh forgotten but for the friendly aid of the notes made on the spot. It may be as well to state here that every plant seen and entered in this report was entered into a note-book when it was seen or collected; and these notes were subsequently copied out and sent to the compiler of this narrative of the journey. Furthermore it should be stated that no plant was entered about which there was the slightest hesitation in reference to its identity. When we had any doubt, or had reason to suspect that there might be a shade of suspicion about the name, the latter was instantly cancelled.

The Clover Dodder was plentiful in a clover-field near Davington church. It was seen attached to other plants besides Clover, especially to *Crepis virens*. It did not appear to have done much mischief this wet season.

*Rumex pulcher* and *Lolium multiflorum* appeared in many places. The latter, being a valuable agricultural grass, is spreading.

Thus ended our botanizing at Faversham, which did not detain us more than three or four hours. The writing of this notice has filled up as much time as the collecting of the plants did. At five o'clock we started by rail for Canterbury.

---

## KINGSTON (CANADA) BOTANICAL SOCIETY.

The 'Phytologist' is indebted, as we believe, to Professor Lawson for several newspapers containing the historical account of the formation of this Society, and our thanks are hereby tendered for the means thus afforded for giving our readers an outline of these interesting proceedings.

A brief epitome is all we can find room for.

On the 7th December, 1860, there was a large meeting held in a class-room of Queen's College, Kingston, to consider the propriety of organizing a Botanical Society; and the proposal appears to have been cordially received by the professors, graduates, and students of the University, as also by the influential gentlemen and citizens of that part of the colony.

The addresses by the Rev. Principal Leitch, Professors Lawson and Litchfield, were very appropriate. We hope the Society, so auspiciously inaugurated on this occasion, will have a happier existence and produce more satisfactory results than a similar Society which the last of the speakers intimated that he aided to establish in the British metropolis. The allusion here made is to the unhappy Society of London, which perished by inanition or sheer famine. This miserable abortion never had a healthy existency, and its foster-parents appear to have been the most inefficient of all imaginable incapables. But *de mortuis nil nisi verum;* we dare not enter *bonum;* this would be a sheer misapplication of the word. We trust there is a better futurity for its younger and more vigorous sister of Upper Canada; but we, for our part, should not, like the Professor, gratuitously state that our connection with the London namesake was of a very intimate character.

*De gustibus nil disputandum.* Probably the Doctor did not know that the Institution which he helped to form in London more than twenty-five years ago has been long reckoned among the departed.

We anticipate for the Botanical Society of Kingston a prosperous career of usefulness for many years. Our hopes are chiefly founded on the comparatively unknown capabilities of the country. Possibly few countries on the globe, as some affectedly call the earth's surface, have had their vegetable productions more carefully and successfully investigated than the British Isles, and still there are novelties to be recorded as well as seen; not merely new localities for rare plants, but absolute accessions to the number of species. What may we not expect in a large, perhaps the largest, dependency of the empire, the greater part hitherto unexplored? Another ground of our confidence in the success of this Society is in the characteristic energy and enterprise of colonial settlers, whether these be provincials by birth or by immigration. A third and the most important element in the constitution of this Society is the thorough cosmopolitan or catholic nature of its objects. It appeals to the woodcutter, the pearlash-maker, the cultivator, the trader, the professional man, the moralist, and the theologian.

It is a grave mistake to divorce science from humanity; and societies which confine their objects to the welfare, instruction, or amelioration of their own associated members only, acquit themselves of scarcely half of the functions devolving on them in their combined or aggregate capacities.

Our readers would not thank the 'Phytologist' for a list of the members of this new co-operative association. Few, indeed, of these names are known here, although they are no doubt the very *élite* of the Canadian population of that part of the colony. Our readers in the colonies must increase very manifold ere we can afford to print their names in our pages, unless they will condescend to employ the humble periodical, in which these remarks appear, as a vehicle for telling the British botanists what are the vegetable productions of their colony. Of course the Secretary of the Society, Professor Lawson, does not come within the bounds of this class: he is a British botanist, and has been a contributor to the 'Phytologist' from its commencement.

Our readers are presented with some account of the constitution of the Society, which will be more satisfactory than a list of members, or even an outline of the speeches delivered when it was formed.

The first law defines the objects of the Society, viz. the study of Botany in all its departments and its application to the fine and useful arts; these are to be carried out by periodical meetings, communications, field meetings, correspondence, interchange of specimens, experiments on plants, introduction of new plants, the publication of transactions, etc.

The next law determines who shall be members, and these are divided into four classes, viz.—1. Honorary Members. 2. Fellows. 3. Annual Subscribers. 4. Corresponding Members.

The fourth and fifth rules define the mode of election and the duties and contributions of the members. (Note—the second and third classes only contribute, and the contribution is two dollars annually.) The remaining rules provide for the election of office-bearers, etc.

The Society may justly be congratulated on their sensible scheme of a moderate annual payment.

The first meeting of the Society was held on 11th January, 1861, in the same place, for the election of Fellows, Subscribers, office-bearers, etc. The Society by this time probably amounts to above 200 members in all. The British honorary members elected at last meeting are the following:—Dr. Balfour, Dr. Greville, Sir W. Hooker, Dr. Lindley, Mr. J. F. Syme, Dr. W. L. Lindsay.

Dr. Mueller and Mr. Thwaites are the Colonial Honorary Members.

At this meeting donations were presented to the Society, already an influential and important body, consisting of books, memoirs, monographs, papers, plants, etc.: and several papers were read, among which is an interesting one from an exploring party in the far-west, and from which an epitome will be made for the gratification of the readers of the 'Phytologist.'

We beg to inform our readers that this Society is named the "Botanical Society of Canada," a rather comprehensive and, some might say, an ambitious title; but if the ground was not preoccupied, it is not only defensible but laudable, and every well-wisher of botany will be delighted to hear that their success has been as great as the auspiciousness of their beginning.

---

## VALERIANA CALCITRAPA.

(*From a Correspondent.*)

While rummaging over some old bundles of plants, I happened to light upon specimens of *Valeriana (Centranthus) Calcitrapa*, from (so far as I know) an unrecorded locality; and I am much mistaken if it does not turn out to be the earliest direct testimony that we have of its existence as a British plant. The plants are accompanied by a ticket in the handwriting of the late Mr. Benjamin Forster, of Walthamstow, at whose sale the bundle of plants in which this Valerian occurs, came into my hands.

The following localities for this introduced (? naturalized) species, viz. 1. Walls belonging to Chelsea Hospital, Middlesex. 2. Churchyard-wall, Eltham, Kent. These two stations are recorded in print. See Withering's 'Arrangement,' vol. i. p. 63, 4th ed., 1801, and Hull's 'British Flora,' 2nd ed., 1808. 3. Palace, Enfield, Middlesex, in MS.

It is remarked in 'Cybele,' vol. ii. p. 25, that the plant above named has very slender claims to inclusion among our British plants as a naturalized alien. Those who are curious in such matters,—I mean writers who would read even their Bibles if thereby they could fix a charge of plagiary on their contemporaries, or even on their predecessors, for they are not very particular about where the dirt is flung, whether on the living or on the dead,—should turn to the 309th page of the old series of the 'Phytologist,' and there they will learn from what source the author of the 'Cybele' drew his inspiration. As I do not mean to make scientific capital by trenching on the informer's trade, I will turn to a more congenial topic, and I intend to claim for the late Mr. Forster the honour (if there be any, hanging at the end of so slender a thread or modicum of information) of being the original discoverer of this plant as a spontaneous British production. If the late above-named amiable botanist was not the first who observed it growing wild in several places as before said, he was the first to record its growth where it is still found.

In vol. i. of the old series of the 'Phytologist,' and *not* in vol. iii. as quoted in the 'Cybele,' and on the 648th and 649th pages, there is a note from the real Simôn Pure, revealing the history of the distribution of *Centranthus Calcitrapa* in the following, quoted from the 'Phytologist,' as before stated:—

"It is now fifty, if not sixty, years since (*Mem.* the author of this note dated it 6th June, 1843) I first saw this plant on a wall at Eltham, where it was well known to the London botanists, who, I believe, always thought it had escaped from Sherard's garden, and it was therefore considered a naturalized plant, etc. We also used at the same to find it on the wall of a garden at Enfield, in Middlesex, which had formerly been that of Dr. Uvedale." If fifty years be subtracted from 1843, the remainder, according to Cocker, will be 1793, and if the longer period, viz. sixty years, be taken from the date when the above-quoted note was written, the remainder will be 1783. Or if we take the mean period, the result will be 1788; and if we add the seventeen years which have elapsed since June, 1843, we have about seventy years as the historic period of this plant as a naturalized species in England.

In casting my eye over the geographical range of *Centranthus Calcitrapa* I find that it is known in the middle and south of Europe, and also in the *Balearian Isles!*

It is very devoutly to be wished that another *Balearic* plant, viz. *Arenaria balearica,* may meet with as great success as this tiny Valerian,—that she may spread herself about and occupy as many stations, and, above all, that she may have her humble claims not only admitted but defended by as many celebrated and generous botanists as have patronized her modest compatriot, is the humble wish of one of Flora's devoted admirers.

## *Remarks on the Botany of the Chilterns.*

*By* CHAS. JOS. ASHFIELD.

I notice, in the first volume of the 'Phytologist,' some notes of plants found near Tring, Herts. I have botanized on the Chiltern Hills at different times, from Whiteleaf Cross, in the parish of Monks Risborough, to the other side of Tring, and can add my testimony to that of your correspondents (vol. i. pp. 105, 331), as to the botanical poverty of the district. Early in September 1850, I found some fine specimens of *Atropa Belladonna,* at the foot of the hill on which the Bridgewater Monument stands, and on the hills in the immediate neighbourhood an abundance of *Gentiana Amarella.* *Dianthus Armeria, Malva moschata,* and one or two of the *Linariæ*—I believe *spuria,* for one—are to be met with in the hedges and fields in the neighbourhood. In July 1850, I had several rambles in the neighbourhood of Chequers and Whiteleaf Cross. The greatest rarity, perhaps, that I met with, was *Iberis amara,* a great quantity of which grew in a cornfield at the foot of the hill on which the Cross is cut. In the woods in the neighbourhood, *Ophrys Nidus-avis* and *Prenanthes muralis,* together with an abundance of *Alchemilla vulgaris, Asperula odorata, Galeobdolon luteum,* and *Sanicula europæa,* are to be found. *Helianthemum vulgare* grows plentifully on the higher parts of the hills, especially on the top of King Cunobelin, the highest, I believe, of the Chiltern range, and some dwarf specimens of *Campanula glomerata,* from one to two or three inches high, grew in the space occupied by the Cross, and on hills in the neighbourhood. I also met with a few specimens of *Ophrys apifera* and *Orchis pyramidalis.* *Galium Mollugo* is plentiful in the hedges at the foot of the hills about Monks Risborough, etc. *Buxus sempervirens* grows on the sides of the hills about Velvet Lawn. *Sedum acre* and *Poterium Sanguisorba* are not uncommon in the same neighbourhood. *Geranium pratense* is plentiful and fine about Great Hampden House and church. I may have met with a few other plants which I cannot call to mind at present, but I have a distinct recollection of those I have mentioned, and, indeed, have specimens of some of them.

You ask, in vol. i. p. 108, if *Habenaria chlorantha, Bupleurum rotundifolium, Ajuga Chamæpitys, Spiranthes autumnalis,* and *Paris quadrifolia* are to be found in the district referred to. The first four I have certainly never met with between Whiteleaf Cross and Tring, but I am not quite certain whether I have found the fifth there or not.

I may as well mention that a ramble of a very few miles, in a north-westerly direction, from Whiteleaf Cross, will bring one to the most prolific station I am acquainted with for the *Fritillaria Meleagris.* It is, I believe, on a farm called Waldridge; but, at any rate, it is near the hamlet of Ford, in the parish of Dinton. The field in which the plant grows is known throughout the neighbourhood, and, as I am informed, even so far as Aylesbury, by the name of the "Crowcup Field," and many persons walk from miles round to gather the flowers every year. I have been told that *Thalictrum flavum* flourishes in the same locality as the Fritillary, but I have never seen it there. I have seen *Fritillaria* growing in two other places, one at Great Munden, Herts, recorded by the reverend author of the 'Herts Flora,' to whom I had the pleasure of being introduced some years since, and the other not far from hence ('Flora of Preston,' part ii.), but in neither place is it so plentiful as in the Bucks locality.

Having mentioned Dinton, I may state that the following are some of the scarcer plants to be found in that parish:—*Galeopsis Ladanum, Campanula hybrida, Linaria spuria, Thlaspi arvense, Sambucus Ebulus, Erysimum cheiranthoides, Hyoscyamus niger, Origanum vulgare, Rumex maritimus, Bryonia dioica, Tamus communis,* and a *Rhamnus,* I forget whether *catharticus* or *Frangula.*

---

## TODMORDEN BOTANICAL SOCIETY.

(*From the Todmorden Post, March 9th.*)

The monthly meeting of the energetic members of this Society was held on March 4th, Mr. Stansfield in the chair, when the excursions for the coming season were arranged. The times and places are as follow:—1st, March 30, Ramsden Wood; 2nd, May 4, Sheddin Clough; 3rd, June 1, Dentdale, Sedbergh; 4th, June 29, Whiteley Dean; 5th, August 3rd, Grand Excursion, North Wales; 6th, August 31, Silverdale; 7th, October 5, Grieve Clough and Boldsworth; 8th, November 2, Thieveley Scouts.

As some readers of the 'Phytologist' may wish to join these zealous Lancashire botanists, we have much pleasure in giving publicity to the foregoing appointments.

The number of specimens laid on the table was limited, but there were several very interesting forms of the Hart's-tongue, *Scolopendrium vulgare*; also some highly interesting varieties of *Polystichum angulare*, gathered by the President in the course of a recent ramble in the neighbourhood of Stainland; *inter alia*, *P. ang. cristatum*, and *P. ang. subtripinnatum*. A large leaf of the splendid ornamental-foliaged plant, *Maranta zebrina*, was brought from Vale Nurseries; also specimens, in flower, of the beautiful *Franciscea confertifolia*, the very curious *Rhipsalis salicornoides*, *Centradenia floribunda*, etc. Among hardy herbaceous plants from the same place, *Helleborus orientalis* and *H. olympicus* were remarkable.

The choice of books was duly proceeded with. From the eagerness with which almost every description of work was called for, it was evident to us that there could not be many books with uncut leaves in the Society's library; and we were most agreeably surprised to find that such of the books even as contain botanical mysteries, hidden under the guise of not very elegant Latinity, and designated by clumsy and uncouth Latin names, are not allowed to get dusty; on calling for a work of this character we found we had been forestalled. These are healthy signs, and we are glad to report them.

Our report would be very incomplete were we not to notice a specimen of a fossil plant, from the Millstone Grit rock, brought by T. E. Hammerton, Esq. The specimen in question was one of those denominated "swords" by the quarry-men. It was from eighteen inches to two feet in length, and much flatter than ordinary, presenting no appearance of having been cylindrical, except at the inferior end. It was difficult to say, from the condition in which the specimen was brought, whether it had belonged to the endogenous or acrogenous plants; if to the latter, it would probably be of the genus *Calamites* of Lindley and Hutton, but if so, it must have been an excorticated specimen, for no distinct traces were observable of the longitudinal grooves and cross-joints characterizing these plants; if to the former, it must have been a gigantic Reed: that such existed at the time the Millstone Grit was deposited, is very probable. The President stated that he had seen a fossil specimen, with the inferior portion of the stem more than six inches in diameter, with the protruding roots, exactly as we see in the larger kinds of Grasses at present existing.

We wish the members of this well-managed Society fine weather for their excursions, which we also hope will be very successful. Our readers will naturally look for a report of the rarities and novelties which they may have the good hap to discover.

## Reviews.

*Flora of Cambridgeshire; or, a Catalogue of Plants found in the County of Cambridge. By* CHARLES CARDALE BABINGTON, M.A., F.R.S., F.L.S. London: Van Voorst, 1860.

The 'Flora of Cambridgeshire' is an admirable specimen of its class. Four requisites are essential to the completeness of a local Flora. First, a competent knowledge of the plants. Second, a perfect acquaintance with the literature of the subject. Third, a thorough exploration of the field of study. Fourth, and not least, a critical eye for anything suspicious in the place of growth of any doubtful native. All these points have been most carefully attended to in the volume before us. In the fifty-six preliminary pages Mr. Babington gives us a full account of all that has been written by former botanists upon the plants of Cambridgeshire. Then follow some excellent topographical remarks; a map of the county; and a table of distribution, in which the plants are traced through eight subdivisions or districts.

The nomenclature and arrangement are naturally those of the fourth edition of the 'Manual of British Botany.' Generic and specific descriptions are omitted as unnecessary in a local Flora; and the matter under each species is limited to—1. The Latin specific name, followed by the English name, when there is a real one. 2. The denomination of the plant, as found in the works of Ray, Martyn, Lyons, Relhan, etc. 3. The general character of the places where the plant grows, its duration and period of flowering. 4. The special localities, followed in each case by the name of the authority, or the initials of the observer.

An important feature of Mr. Babington's 'Flora of Cambridgeshire' is its historical character. Two hundred years have now elapsed from the time that the first Catalogue of Cambridgeshire plants was published by the illustrious Ray; many other Floras, Catalogues, and similar treatises have since appeared. Thus, the present Flora, as the last of a series of works upon the same subject, becomes at once a record of the progress of botany, and a witness of the changes which have taken place upon the surface of the country—of the consequent disappearance of many plants, the apparently recent introduction of others. Fully aware of the interest attaching to his work in an historical point of view, Mr. Babington has taken care to give, under each species, a reference to the earliest writer who mentions it as found in Cambridgeshire, and, when possible, the name of the original finder is stated; also, for the purpose of contrasting the present state of the Flora with its former condition, the localities which rest solely upon the authority of the older botanists, are distinguished by being printed in *italics*. If anything, perhaps too great respect has, in a few cases, been shown for ancient authorities. For instance, we cannot help suspecting that *Senecio sylvaticus* was mistaken for *S. viscosus* in the localities given; and possibly *Œnanthe fluviatilis* for *Cicuta virosa*.

It is a special province of the local botanist to distinguish between indigenous and introduced plants, both by stating his own opinion, and by reporting exactly the kind of station in which a suspected plant occurs. Mr. Babington appears to have bestowed much care on this portion of his subject: he has been the first to adopt the use of a separate brand (‡) for the "probably," as distinguished from the "possibly" (†) and "certainly" (*) introduced species. He has also attached the mark of foreign origin to several of the "colonist" class. In both these particulars Mr. Babington is supported by the high authority of Alphonse De Candolle, as may be seen by a reference to the 'Géographie Botanique,' vol. ii. p. 642 (see also 'Phytologist,' N.S. vol. ii. p. 451.)

The following paragraphs, quoted from the Introduction, will give some idea of the surface of the country, and of the "great alterations caused by modern enclosures and drainage:"—

> "Cambridgeshire," writes Mr. Babington, "may be described as flat and naked; nevertheless it is not so absolutely flat as is generally supposed. A range of conspicuous chalk-hills extends across the southern part

of the county, and the south-eastern district, consisting also of chalk, is undulating and well furnished with wood. To the north of the chalk country a broad belt of level clayey land occurs, having much flint gravel distributed over its surface. Formerly, each watercourse traversing this clayey district was bordered more or less widely by a morass, and some of its depressed parts formed tracts of fen.

"Until recently most of the chalk district was open and covered with a beautiful coating of turf, profusely decorated with *Anemone Pulsatilla*, *Astragalus Hypoglottis*, and other interesting plants. It is now converted into arable land, and its peculiar plants mostly confined to small waste spots by roadsides, pits, and the very few banks which are too steep for the plough. Thus, many species which were formerly abundant have become rare; so rare as to cause an unjust suspicion of their not being really natives to arise in the minds of some modern botanists.

"Until within about sixty years the whole of the clay district was open, although cultivated. The homesteads were collected together so as to form villages, and each had one or two little paddocks attached to it; the remainder of the parish, the 'field,' being without fences, and divided by slender lines of ancient turf, denominated 'balks,' into long narrow strips called 'yard-lands.' With a very few slight exceptions, all the 'field' is now enclosed, and the 'balks,' with the various plants which grew upon them, destroyed by the plough. Thus the plants native to the clay have suffered nearly as much as those indigenous to the chalk. Where they were formerly abundant they are now rarely to be found.

"Botanically speaking, the Fens have undergone an equally, if not more, destructive change. The employment of steam has made the removal of the water so certain, that nearly the whole level may be cited as a pattern in farming. With the water, many of the most interesting and characteristic plants have disappeared, or are become so exceedingly rare, that the discovery of single individuals of them is a subject for wonder and congratulation. There is scarcely a spot remaining (I only know of one, near Wicken) in which the ancient vegetation continues undisturbed and the land is sufficiently wet to admit of it coming to perfection. Owing to the necessary existence of numerous ditches to divide the fields and collect the water, those plants which are absolutely aquatic have not suffered so greatly as the others."

No wonder that we find in the Appendix some 50 species enumerated as "Lost Plants."

As might be expected, from its southerly position and its proximity to the European continent, Cambridgeshire affords a rich variety of indigenous plants. Including nearly eighty species marked as introduced, the species enumerated in the table of distribution amount to 928, a high number, when it is remembered that the maritime Flora hardly exceeds 30.

With the exception of *Rœmeria hybrida,* marked as probably introduced, Cambridgeshire has no British plant peculiar to itself. It shares its most characteristic species with Suffolk and Norfolk and others of the eastern counties. Such are *Apera interrupta, Medicago sylvestris, M. falcata* (all three treated as natives), *Statice caspia, Primula elatior, Silene Otites, Carum Bulbocastanum, Seseli Libanotis, Barkhausia fœtida, Phleum Bœhmeri, Medicago minima, Galium anglicum;* and the well-known rarities of the Fens, many of them already lost, *Cineraria palustris, Sonchus palustris, Sturmia Lœselii, Senecio paludosus, Viola stagnina,* etc., nearly all of which belong to the "Germanic" or eastern "type" of Watson. It is indeed the comparative prevalence of this group which forms a principal feature of its Flora, for out of the 127 species placed by Watson in his Germanic type more than 80 occur in Cambridgeshire.

At the same time it is remarkable that several of the most local "Germanic" plants are wanting, *e.g. Holosteum umbellatum, Veronica verna, Artemisia campestris, Verbascum floccosum,* apparently restricted to the adjacent counties of Suffolk and Norfolk; and others with a wider range, *Turritis glabra, Veronica Triphyllos, Cynoglossum sylvaticum, Carex bönninghausiana.* We miss also *Hordeum sylvaticum, Daphne Mezereon, Phyteuma orbiculare,* and some of our rarest Orchids, which do not reach so far north.

The southern or "English" type plants constitute a large proportion, and include, like the former group, many rare and local species, such as *Hypochœris maculata, Vicia gracilis, Chenopodium hybridum, Veronica spicata,* and many others, too numerous to be quoted at length.

The northern or "Scottish" and "intermediate" types have few representatives in Cambridgeshire: *Thalictrum saxatile, Drosera anglica, Sanguisorba officinalis, Potentilla verna, Parnassia palustris, Antennaria dioica, Campanula latifolia, Galeopsis versicolor, Pinguicula vulgaris, Potamogeton prælongus, Carex dioica,* and *C. filiformis,* nearly all of which range further south in the damper climate and more hilly country of the west of England.

*Erodium moschatum,* an escape only, is the single species of the "Atlantic" or south-western group which occurs in the list.

As before remarked, the sea-side plants are few, being confined to quite a small district, itself much circumscribed by recent draining operations. The only rarities are *Statice caspia* and *Obione pedunculata*, the latter probably extinct.

We must not forget to call attention to the valuable matter given in the Appendix, itself a most important contribution to British Botany, and which contains articles on the following subjects:—1. On *Thalictrum saxatile*. 2. On *Papaver dubium*. 3. *Viola canina*, Linn. 4. On *Arenaria serpyllifolia*. 5. On several Brambles. 6. On *Serrafalcus*. 7. On *Triticum*. 8. On the Vegetation of the Fens. 9. List of the Lost Plants of Cambridgeshire. 10. On the Geographical Relations of the Cambridgeshire Flora as compared with that of Great Britain.

It only remains for us heartily to recommend Mr. Babington's latest volume as a model County Flora. We feel convinced that it will add to the well-deserved reputation of its author, and we trust that the 'Flora of Cambridgeshire' will obtain an extensive circulation among all who take an interest in the distribution of British plants, as well as among the botanical students of the University, whose wants it is especially calculated to meet.

---

*The Chemist and Druggist: a Monthly Trade Circular*. Published for the Proprietor, by James Firth, Cannon Street West, London, E.C.

This number, among other well-written articles with which the 'Phytologist' does not meddle, contains one on the Natural Order *Ranunculaceæ*, which comprehends several officinal plants, viz. *Aconitum*, *Actæa*, *Hellebore*, *Nigella*, etc.

We need not quote the article on this Order to afford our readers a sample of the serial in which it appears, as most of them are already in possession of the information which it contains. The following extract from a reformer will speak for itself:—

> "For my own part, I cannot coincide with many members of the trade, who deem it more judicious to fill the shop with fancy articles supplied ready for sale, and offering a certain amount of profit, if sold, to the slower, but more steady, lasting, and legitimate mode of increasing trade by means of the preparation and introduction of medicines in such a form as to render

them less nauseous, more concentrated, and purer, but equally efficacious. The arguments usually adduced against this are, that it involves a great deal of valuable time; that experiments are not conducted without expense; that the manipulation attending many chemical compounds requires experience and tact, which all individuals do not possess; lastly, and chiefly, that when prepared and submitted to the public, these preparations do not always take."

Another still more important suggestion is thrown out, and one which has a close relation to the matters with which *phytology* has to deal, viz.—

"That prizes be given to the person or persons who shall best make and produce the active principle of any given plant or plants, in such a form as to be fit for exhibition as medicines; that the process be made as simple and practicable as possible. That preference be given to such articles as rhubarb, gentian, etc., and that contributions be accepted of one shilling and upwards. Other minutiæ to be arranged as circumstances may from time to time determine."

Our next extract will further illustrate the nature and objects of this periodical, which, we should state, is published for the trade, and sold only to members of this trading community:—

"*The Colouring Matter of Leaves.*—When leaves are extracted by alcohol, a green oil is obtained, which is called *chlorophyll.* Fremy has ascertained that this consists of a *blue* and a *yellow* principle, which he has succeeded in isolating: to the blue principle he has given the name *phyllocyanine,* and to the yellow the name *phylloxanthine.* Leaves which become yellow in autumn contain only the latter."

We may further say that this periodical, of which we have seen but two numbers, has our good wishes. May the favourable gale of prosperity constantly fill its sails, and may its circulation and usefulness be equal to the talent and enterprise of its proprietor and manager. R.

---

## BOTANICAL NOTES, NOTICES, AND QUERIES.

### LIVERPOOL NATURALISTS' FIELD CLUB.

Sir,—It may interest some of your readers to know that the Liverpool Naturalists' Field Club intend having a grand Festival in St. George's Hall, about the middle of April; I have therefore the pleasure of enclosing a programme for your inspection. Yours, etc., H. S. FISHER.

The Editor of the 'Phytologist' regrets that he did not receive the above note in time for its being printed in the March number. He has much pleasure in giving publicity to the proposal; and judging from the names entered in the list of the General and Sectional Committees, it may safely be predicted that this effort to utilize and popularize all the branches of Natural History will be decidedly successful. The proposal has our good wishes, and if we were near Liverpool, the promoters of the good work should have our active and zealous co-operation. The following is the programme, for which we are obliged to Mr. Fisher:—

"The Committee having decided upon holding a Grand Anniversary Festival of the Liverpool Naturalists' Field Club, in St. George's Hall, during the month of April, earnestly solicit the immediate and active co-operation of every member of the Club, and of all who take an interest in the pursuits of Natural History. By early, combined, and sustained effort, it is believed that such a variety of rare and choice specimens in every department of Natural History may be collected as cannot fail to be generally delightful and instructive.

"Members who possess or can procure specimens or curiosities, cases of birds, insects, shells, minerals, fossils, etc., books, plates, or diagrams illustrative of Natural History, which they are willing to lend for exhibition, are requested to communicate at once to the Secretary of that department to which the objects may belong, stating what amount of space will be required for their effective display.

"Vegetable or animal products used in manufactures or the arts will be acceptable.

"Ingenious members will oblige by sending in sketches of suitable designs for ornamentation, in keeping with the character of the Hall and the objects of the Exhibition.

"A committee of ladies will kindly assist in the æsthetical department, and superintend the decorations and commissariat."

## RETROSPECTIVE.

*Arenaria balearica.*—This interesting little plant, the Earl of Ilchester has informed me, grows now on several walls and garden buildings on his Lordship's estate, Abbotsbury, Dorset. Its origin or how it first came there is unknown, but there it is in tolerable plenty, and it has been observed in the chinks and crevices of damp walls for a considerable period,—several years; I understood at least twenty years. W. P.

## VIOLA TRICOLOR, VAR. ARENICOLA.

(Phytol. iv. 301.) The author naïvely subjoins, after a long description of the above variety, the following:—"I cannot here find any characters by which to separate this plant from *V. tricolor*, of which Mr. Babington very justly considers it a variety." It might be asked, why, then, did he trouble himself by describing it, and why did he cumber half a page of the 'Phytologist' with a long description of a well-known plant? Is not this a specimen of scientific twaddle? Q.

ANTIRRHINUM ORONTIUM.—This agrarial plant has also been sent from Perth, and it is recorded in the list of additional species detected by our keen observant correspondent. The range of the species must *now* be extended from York to Perth, an extent of above two hundred miles.

**ANTIRRHINUM MAJUS** arrived in the same parcel and sent by the same obliging friend. These two species illustrate the uncertainty that clings to recent very unsatisfactory attempts to separate what are called native from what are called introduced plants.

*Antirrhinum Orontium* is reported to have been found in thirty counties, and *A. majus* probably in sixty; yet the latter is *now* all but universally deemed an introduction and the latter a native. They might be put under the same category without violating historical proof or natural probabilities.

### LATHYRUS TUBEROSUS.

The above plant is entered among British productions by Dr. C. Merrett, in his 'Pinax Rerum Naturalium Britannicarum,' ed. sec., p. 46.—*Glandes terræ*, Peas Earth-nut G. (Gerrard), 1236. *Lathyrus arvensis sive terræ glandes*, P. (Parkinson, 1061).

*Note.*—It may be stated that the doctor quotes no authority nor locality. N.

### EXTRACTS FROM CORRESPONDENCE.

. . . . We had the pleasure to see abundance of *Galanthus nivalis* in its beauty, and apparently quite wild, in some rough fields by the roadside as you go from Corwen to Cerrig y Druidion, *Adoxa moschatellina* growing near it. Besides the Snowdrop, we can now add to our Merionethshire Flora *Narcissus Pseudo-Narcissus*, which grows plentifully on the lands of Garth Llwyd, a small farm in this parish. The Daffodil also grows for a considerable distance on banks and borders of woods and fields near the railroad between Ruabon and Wrexham, in the adjoining county, Denbighshire; also *Helleborus fœtidus*. W. P.

*Llanderfel, March*, 1861.

---

*Communications have been received from*

John Sim; John Lloyd; Charles Howie; George Wolsey; Tom Stansfield; C. J. Ashfield; W. Winter; H. S. Fisher; Harriet Beisly; Sidney Beisly; J. B. Mackay; J. S. M.; Rev. W. M. Hind; W. Pamplin; J. G. Baker.

---

### BOOKS RECEIVED FOR REVIEW.

*Flora of Preston and its Neighbourhood, Parts I. and II.*
*The Gardeners' Chronicle, Feb. 16th.*
*The Chemist and Druggist.*
*Notes on Books.*
*The Todmorden Post, March 9th.*
*The Preston Chronicle, March 17th, July 14th, and August 11th, 1860.*
*A Priced List of Hardy, Herbaceous, and Alpine Plants, by A. Stansfield and Sons, Todmorden.*

4 SE 61

*Lately Published,*

**PARTS XI. & XII.**, or VOL. III. PARTS III. & IV.,
(completing the Third Volume.) **Price 10s.**

# SPECIES FILICUM;

BEING

## DESCRIPTIONS

OF

# ALL KNOWN FERNS.

ILLUSTRATED WITH PLATES.

BY

## SIR WILLIAM JACKSON HOOKER, K.H.,

D.C.L. OXON., F.R.S., F.A.S., F.L.S., ETC.,
AND DIRECTOR OF THE ROYAL GARDENS OF KEW.

☞ This Work may still be had in Parts, or in Volumes, as follows :—

| | £. | s. | d. | | £. | s. | d. |
|---|---|---|---|---|---|---|---|
| Part I. | 0 | 12 | 0 | Part VI. | 0 | 10 | 0 |
| Part II. | 0 | 10 | 0 | Parts VII. and VIII. | 0 | 10 | 0 |
| Part III. | 0 | 10 | 0 | Part IX. | 0 | 10 | 0 |
| Part IV. | 0 | 6 | 0 | Part X. | 0 | 10 | 0 |
| Part V. | 0 | 10 | 0 | Parts XI. and XII. | 0 | 10 | 0 |

or in Volumes, cloth :—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volume I. | 1 | 18 | 0 | Volume II. | 1 | 10 | 0 |

Volume III. £1. 10s.

---

LONDON:
WILLIAM PAMPLIN, 45, FRITH STREET, SOHO, W.

*NOW READY,*

**PARTS I. to XI., Price 1s. each,**

# INDEX FILICUM;

## AN ILLUSTRATED SYNOPSIS,

WITH CHARACTERS, OF

## THE GENERA,

AND AN ENUMERATION OF

## THE SPECIES OF FERNS,

WITH SYNONYMS, REFERENCES, ETC. ETC.

BY

### THOMAS MOORE, F.L.S., F.R.H.S.,

AUTHOR OF 'THE HANDBOOK OF BRITISH FERNS;' 'THE FERNS OF GREAT BRITAIN AND IRELAND, NATURE PRINTED,' EDITOR OF 'THE FLORAL MAGAZINE,' ETC.; CURATOR OF THE CHELSEA BOTANIC GARDEN.

**☞ PART XII. IS NEARLY READY.**

# FILICES EXSICCATÆ.

## A COLLECTION OF DRIED FERNS

By various Collectors and from most parts of the world, partly named. They are all original, wild Specimens, each accompanied by a ticket, with Habitat, Collector's Name (where known), etc., serving to illustrate the Genera and Species of Ferns. Price per hundred species, 35*s*.

☞ The above Collection has no mere fronds or fragments of fronds, nor are there any garden or cultivated plants amongst them, but the whole of them are genuine, original, wild specimens from the various localities, as indicated upon the tickets; neither are there any duplicates.

The General Collection of these DRIED FERNS consists of from 1,000 to 1,500 Species, at 35*s*. per hundred Species; but if Ferns to illustrate any given Sub-Orders or Genera be desired, these will be charged at a higher rate, viz. 42*s*. per hundred Species; the same also if those of a particular country be taken out separately. If particular Species be wanted, and any number less than 100 be taken, 6*d*. each plant will be charged. *All correctly named.*

The principal part of these FERNS now advertised is of quite recent collection, very large consignment of fine Specimens having just been received from a correspondent in AUSTRALIA, collected so recently as the month of August last.

☞ A Sample Packet, consisting of Twelve Plants, will be sent to any one for 5*s*.

WILLIAM PAMPLIN 45, FRITH STREET, SOHO SQUARE, LONDON.